

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of)	
)	
Amendment of Parts 2 and 25 of the)	ET Docket No. 98-206
Commission's Rules to Permit Operation)	RM-9147
of NGSO FSS Systems Co-Frequency with)	RM-9245
GSO and Terrestrial Systems in the Ku-)	
Band Frequency Range)	
and)	
Amendment of the Commission's Rules)	
to Authorize Subsidiary Terrestrial Use)	
of the 12.2-12.7 GHz Band by Direct)	
Broadcast Satellite Licensees and Their)	
Affiliates)	

COMMENTS OF HUGHES COMMUNICATIONS, INC.

Hughes Communications, Inc. ("HCI") hereby submits its Comments in response to the Commission's Notice of Proposed Rulemaking¹ in the above-referenced proceeding. HCI is vitally interested in this proceeding as an applicant for the HughesLINK and HughesNET in the Ku band NGSO FSS satellite systems. Additionally, HCI has an interest in this proceeding as a member of a family of companies that have current satellite operations in the Ku band, namely PanAmSat Corporation and DIRECTV, Inc.

At the outset, HCI lauds the Commission for its initiative and effort in putting forth the NPRM. HCI agrees with the Commission that because of the extensive current use of

¹ *Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range, FCC 98-310 (rel. November 24, 1998) ("NPRM")*

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the Ku band by U.S. operators, the Commission must proceed to develop a full record, independent of any international proceedings, on the feasibility of introducing NGSO FSS systems that operate co-frequency with incumbent Ku band satellite and terrestrial systems.² Subject to the resolution of appropriate GSO/NGSO sharing criteria that protect existing and future GSO FSS and BSS uses, HCI also supports the Commission's proposal to open a large amount of Ku band spectrum to NGSO FSS operations. As to the specific parameters of GSO/NGSO sharing, HCI fully supports the comments of PanAmSat and DIRECTV that are being submitted concurrently. HCI is writing separately, as an applicant for Ku band NGSO FSS systems, to address the matters below.

I. GSO/NGSO SHARING

HCI agrees with the Commission that defining appropriate equivalent power flux-density and the aggregate power flux-density limits is a critical threshold issue for ensuring that NGSO FSS operations (i) do not cause unacceptable interference to existing GSO FSS users and (ii) do not unduly constrain future growth of these incumbent services.³ On this issue, HCI fully supports the comments of PanAmSat and DIRECTV, which indicate that the WRC-97 provisional apfd and epfd limits will not sufficiently protect incumbent GSO FSS and BSS operations licensed by the Commission.

In this regard, HCI specifically supports the more stringent apfd and epfd levels endorsed by PanAmSat and DIRECTV. While HCI leaves to PanAmSat and DIRECTV a full exposition of the need for, and the benefits of, these more stringent standards, HCI notes that it

² See NPRM at ¶ 11.

³ See NPRM at ¶ 1.

has been able to design, and filed applications for, two NGSO FSS systems at Ku band that can operate within these more stringent standards, while providing full service capabilities to end users.

A critical related issue, of course, is the identification of appropriate aggregate interference limits that will protect GSO systems from cumulative interference from multiple NGSO systems. Those limits first need to be developed with due regard to the needs of the GSO industry and then need to be equally apportioned among the various NGSO systems so that each NGSO system bears an appropriate portion of these GSO protection requirements.

II. NGSO/NGSO SHARING

HCI also agrees that it is crucial from a policy perspective to accommodate multiple NGSO FSS systems at Ku band in order to promote competition.⁴ HCI has identified in its HughesLINK and HughesNET applications certain interference mitigation techniques that NGSO systems may employ to enable co-frequency NGSO/NGSO sharing. However, it is not yet possible to recommend specific sharing approaches and parameters that should be employed to facilitate entry by the NGSO FSS applications that have been filed in the recent filing window. The precise NGSO/NGSO system sharing parameters that should be employed hinge on the specific characteristics of these recently-filed system applications and, to some extent, the compromises and accommodations that individual applicants are willing to make. To this end, both of HCI's NGSO FSS system applications have been designed with the capability of "bear[ing] some portion of the technical and operational constraints necessary to accommodate

⁴ See NPRM at ¶ 67.

multiple NGSO FSS systems.”⁵ Both systems incorporate several potential sharing techniques, including satellite diversity, narrow beamwidth antennas and adaptive power control.

Due to the complexity of NGSO/NGSO sharing and the relative infancy of the technical studies on this problem, neither the industry nor the Commission has sufficient information, at this time, to allow the Commission to adopt a specific set of NGSO/NGSO sharing parameters for the NGSO FSS applications on file. HCI recommends that the Commission take the following steps in order to facilitate the provision of competitive service by multiple NGSO systems. First, the Commission should clearly mandate that all NGSO systems in the current processing round bear an equal part of the burden of facilitating multiple NGSO system access to the Ku band. In doing so, the Commission also should provide the applicants with comfort that they will have wide latitude to propose system modifications that will facilitate a successful solution to NGSO/NGSO sharing. Second, the Commission should encourage the development of an industry working group among the NGSO FSS applicants, which would attempt to develop appropriate sharing approaches and parameters to permit multiple NGSO FSS entry at Ku band, while taking into account the specific parameters of each system. HCI believes that proceeding in this manner is the best approach for developing specific NGSO/NGSO sharing proposals because it will allow the applicants to develop solutions that best meet their system requirements and will avoid the need for the Commission to expend resources to develop its own sharing criteria.

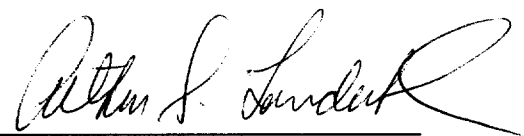
⁵ See NPRM at ¶ 70.

III. CONCLUSION

As the Commission has recognized, NGSO FSS use of the Ku band presents an exciting opportunity for new services and technology. HCI has submitted two applications that seek to utilize this advanced technology to provide these new services. However, development and deployment of NGSO systems at Ku band must be accomplished while protecting the current and future operations of incumbent GSO FSS and BSS systems and their millions of existing users in the U.S. and worldwide. Finally, in developing the rules governing NGSO FSS use of the Ku band, the Commission should require that NGSO systems bear an equal burden of the GSO protection requirements and share equally the spectrum available at Ku band.

Respectfully submitted,

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